# Work Order ID 84931

*May-29-12 2:57:10 PM*

*84931*



**Item ID:** D209-669-043 **Accept** *N900040100* **Setup Start** *NS1*

**Revision ID:** **Stop** *NS2*

**Item Name:** Replacement Skidtube

**Start Date:** 29/05/2012 **Start Qty:** 1.00 *1*

**Required Date:** 16/07/2012 **Req'd Qty:** 1.00 *1*

**Reference:**

**Cust Item ID:**

**Customer:**

**Approvals:** **Process Plan:** MLJ **Date:** 12/05/29 **Tooling:** _____ **Date:** _____

**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

**Run Start** *NR1*

**Stop** *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| Draw Nbr: D2906 | Revision Nbr: Rev B | | | | | | | | |
| 100 | | 0.00 | | | | | | | |
| *100* | DOCUMENT CONTROL | | | | | | N/A KJ | | |
| DC | **Memo** | 0.00 | | | | | | | |
| Document Control | Photocopy D209-669 bluefile & type labels per PPP D205-669-043 Chg 002 003 per ECN12-595 | | | | | | | | |
| 110 | | 0.00 | | | | | | | |
| *110* | Skidtubes | | | | | | | | |
| Skidtubes | **Memo** | 0.00 | | | | | | | |
| Skidtubes | - Inspect mat'l D2500-1-190 for damage | | | | | | CF 12.6.18 | | |
| | -Drill pilot holes using drill jig DT8149, DT8711-2 & DT8711-3 (Do not use cutting fluid) | | | | | | | | |
| | -Open holes to 0.500" as per Dwg D2906 without cutting fluid | | | | | | SAD 12.06.18 | | |
| | -Deburr and blow out all chips from | | | | | | | | |
| | -Acid etch and Alodine tube per QSI 005 4.1 | | | | | | DG 12-6-18 | | |

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| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
| | | | | | | | | |
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**NOTE:** Date & initial all entries

**Item ID:** D209-669-043 **Accept** *N900040100* **Setup Start** *NS1*
**Revision ID:** **Stop** *NS2*
**Item Name:** Replacement Skidtube
**Start Date:** 29/05/2012 **Start Qty:** 1.00 *1*
**Required Date:** 16/07/2012 **Req'd Qty:** 1.00 *1*
**Reference:**
**Cust Item ID:**
**Customer:**

**Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

**Run Start** *NR1*
**Stop** *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 120 | QC3- Inspect Part Finish | 0.00 | | | | 1 | | SAD | 12-06-18 |
| *120* | | | | | | | | | |
| QC | **Memo** | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |
| 130 | | 0.00 | | | | | | | |
| *130* | Skidtubes | | | | | | | | |
| Skidtubes | **Memo** | 0.00 | | | | CF | | | 12-6-18 |
| Skidtubes | -Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting | | | | | | | | |

Pick:

| Qty | Part Number | Description | Batch |
|---|---|---|---|
| A/R | Sikaflex-291 | | M121409 |

Sikaflex expire date: 13-4-12
Start Time: 15:45 Date: 12-6-18
Fin Time: 18:00 Date: 12-07-05
pick:

| Qty | P/N | description | B/N |
|---|---|---|---|
| 1 | D2926-3 | Web | 84949 |

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| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
| | | | | | | | | |
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**NOTE:** Date & initial all entries

**Item ID:** D209-669-043 **Accept** *N900040100* **Setup Start** *NS1*
**Revision ID:** **Stop** *NS2*
**Item Name:** Replacement Skidtube
**Start Date:** 29/05/2012 **Start Qty:** 1.00 *1*
**Required Date:** 16/07/2012 **Req'd Qty:** 1.00 *1*
**Reference:**
**Cust Item ID:**
**Customer:**

**Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

**Run Start** *NR1*
**Stop** *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 140 | | 0.00 | | | | | | | |
| *140* | BENDING MACHINE - CROSSTUBES | | | | | | | | |
| CNC Bend 1 | **Memo** | 0.00 | | | | | | | |
| CNC Delta 100 Bender | 1-Bend as per program COB43FWD & COBRAFT on CNC Bender and Folio FT<br>2-Cut tubes as per Dwg. D2906 | | | | | DC 12/06/19 CF | | | |
| 150 | | 0.00 | | | | | | | |
| *150* | Skidtubes | | | | | | | | |
| Skidtubes | **Memo** | 0.00 | | | | | | | |
| Skidtubes | -Deburr ends and remove markes from bending → CF 12.6.19<br>- Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expantion and finish with 1/2 x 18G to achieve dwg dimention. → CF 12.7.5 | | | | | | | | |
| 160 | QC5- Inspect part completeness to step on W/O | 0.00 | | | | 1 | 0 | DE 12/07/05 | |
| *160* | | | | | | | | | |
| QC | **Memo** | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

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| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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**NOTE:** Date & initial all entries

**Item ID:** D209-669-043 **Accept** *N900040100* **Setup Start** *NS1*
**Revision ID:** **Stop** *NS2*
**Item Name:** Replacement Skidtube
**Start Date:** 29/05/2012 **Start Qty:** 1.00 *1*
**Required Date:** 16/07/2012 **Req'd Qty:** 1.00 *1*
**Reference:**
**Cust Item ID:**
**Customer:**

**Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

**Run Start** *NR1*
**Stop** *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 170 | | 0.00 | | | | 1 | | SD | 12-07-05 |
| *170* | Large Fab | | | | | | | | |
| Skidtubes | **Memo** | 0.00 | | | | | | | |
| Skidtubes | -Drill holes for wearplates using DT8217 Open holes to 19/64", adjust stopper not to hit web.Deburr<br>-Drill pilot holes for aft & fwd cap using DT8215 open holes to #6" Deburr<br>-Drill pilot holes for Tow ring using DT8091-3 , open to .640"and Deburr | | | | | | | | |
| 190 | QC5- Inspect part completeness to step on W/O | 0.00 | | | | | | | |
| *190* | | | | | | | | | |
| QC | **Memo** | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

5/16/05

**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
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**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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**NOTE:** Date & initial all entries

**Item ID:** D209-669-043 **Accept** *N900040100** **Setup Start** *NS1*
**Revision ID:** **Stop** *NS2*
**Item Name:** Replacement Skidtube
**Start Date:** 29/05/2012 **Start Qty:** 1.00 *1* **Cust Item ID:**
**Required Date:** 16/07/2012 **Req'd Qty:** 1.00 *1* **Customer:**
**Reference:**

**Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** *NR1*
**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 200 *200* HandFinish Hand Finishing | Pressure Wash per QSI005 4.3 | 0.00 | | | | 1 | NG | 12-7-5 | |
| | **Memo** | 0.00 | | | | | | | |
| 210 *210* Powdercoat Powder Coating | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum | 0.00 | | | | 1 | | | ML 12/07/06 |
| | **Memo** START TIME: 3:00 OVEN TEMPERATURE: 320°F FINISH TIME: 3:30 | 0.00 | | | | | | | |
| 220 *220* QC Quality Control | QC3- Inspect Part Finish | 0.00 | | | | 1 | | | 12/07/06 |
| | **Memo** | 0.00 | | | | | | | |

M121841

**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
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**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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**NOTE:** Date & initial all entries

# Work Order ID 84931

*May-29-12 2:57:10 PM*

*84931*



**Item ID:** D209-669-043 **Accept** *N900040100* **Setup Start** *NS1*

**Revision ID:** **Stop** *NS2*

**Item Name:** Replacement Skidtube

**Start Date:** 29/05/2012 **Start Qty:** 1.00 *1*

**Required Date:** 16/07/2012 **Req'd Qty:** 1.00 *1*

**Reference:**

**Cust Item ID:**

**Customer:**

**Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

**Run Start** *NR1*

**Stop** *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 230 | | 0.00 | | | | | | | |
| *230* HandFinish | HandFinishing | | | | | 1 | 8 | QP | 12/07/06 |
| Hand Finishing | **Memo** | 0.00 | | | | | | | |

1-Install inserts & wearplates as per Dwg. D2906. Use a drop of Sikaflex on insert holes before installing wearplates
A/R Sikaflex-291 121409
Sikaflex expire date: 13/07

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2906

3-Inspect for foreign object per QSI 024

4-Install D2855 Fwd & Aft Cap as per Dwg D2906 and seal Fwd & Aft Cap with Sikaflex. Clean excess adhesive
A/R Sikaflex-291 121409
Sikaflex expire date: 13/07

5-Wing Walk as per Dwg D2906 and QSI 005 4.4
Batch: 121613

**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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**NOTE:** Date & initial all entries

# Work Order ID 84931

*May-29-12 2:57:10 PM*

*84931*



**Item ID:** D209-669-043 **Accept** *N900040100* **Setup Start** *NS1*

**Revision ID:** **Stop** *NS2*

**Item Name:** Replacement Skidtube

**Start Date:** 29/05/2012 **Start Qty:** 1.00 *1*

**Required Date:** 16/07/2012 **Req'd Qty:** 1.00 *1*

**Reference:**

**Cust Item ID:**

**Customer:**

**Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

**Run Start** *NR1*

**Stop** *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 240 | QC5- Inspect part completeness to step on W/O | 0.00 | | | | | | | |
| *240* QC Quality Control | **Memo** Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024 | 0.00 | | | | | | | |
| 250 | | 0.00 | | | | | | | |
| *250* Packaging Packaging | Packaging | | | | | | | | |
| | **Memo** Identify and pack for shipping as per PPPD209-669-043 Location:_____ PPP Rev:_____ 84887 | 0.00 | | | | | | | |
| 260 | QC21- Final Inspection - Work Order Release | 0.00 | | | | | | | |
| *260* QC Quality Control | **Memo** | 0.00 | | | | | | | |

12/7/12

12-07-12

**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
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**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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**NOTE:** Date & initial all entries

# Picklist Print

*May-29-12 2:57:14 PM*



**Work Order ID:** 84931

*84931*

**Parent Item:** D209-669-043

*D209-669-043*

**Parent Item Name:** Replacement Skidtube

**Start Date:** 29/05/2012 **Required Date:** 16/07/2012

**Start Qty:** 1.00 **Required Qty:** 1.00

**Comments:** new IPP 08.02.13 LL, verified by: DD
IPP Rev:B remove DT # in seq140 DD 10.03.10 Verified by:EC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D4202-1 | | Manufactured | No | | | | Each | 81.0000 | | 19 | | | |
| *D4202-1* | | | | B83263 | | (2) | | | ** | 19 | CF 12.7.5 | | |
| Spacer | | | | B84763 | | (17) | | | | | | | |
| | | | | **Location** | | **Loc Qty** | | **Loc Code** | | | | | |
| | | | | LG | | 5 | | | | | | | |
| | | | | | 77727 | 5 | | | | | | | |
| | | | | LG002 | | 76 | | | | | | | |
| | | | | | 78806 | 6 | | | | | | | |
| | | | | | 79810 | 70 | | | | | | | |
| D2500-1-190 | | Manufactured | No | | | 110 | Each | 91.0000 | 1 | 1 | | | |
| *D2500-1-190* | | | | | | | | | ** | | CF 12.8.18 | | |
| Ext'n - 'I' Beam Tube 4" | | | | | | | | | | | | | |
| | | | | **Location** | | **Loc Qty** | | **Loc Code** | | | | | |
| | | | | HALL | | 91 | | | | | | | |
| | | | | | 74777 | 14 | | | | | | | |
| | | | | | 80061 | 77 | | | | (1) | | | |
| D2926-3 | | Manufactured | No | | | 110 | Each | 0.0000 | 1 | 1 | | | |
| *D2926-3* | | | | B84949 | | | | | ** | (1) | CF 12.6.18 | | |
| Web | | | | | | | | | | | | | |
| D2855 | | Manufactured | No | | | 230 | Each | 21.0000 | 2 | 2 | | | |
| *D2855* | | | | | | | | | ** | 2 | (28) | 12/04/09 | |
| Cap | | | | | | | | | | | | | |
| | | | | **Location** | | **Loc Qty** | | **Loc Code** | | | | | |
| | | | | FP002 | 84952 ✓ | 21 | | | | 1 | | | |
| | | | | | 65519 | 2 | | | | | | | |
| | | | | | 73347 ✓ | 16 | | | | 1 | | | |
| | | | | | 75074 | 3 | | | | | | | |

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| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
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**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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**NOTE:** Date & initial all entries

# Picklist Print

*May-29-12 2:57:14 PM*

**Work Order ID:** 84931

*84931*

**Parent Item:** D209-669-043

*D209-669-043*

**Parent Item Name:** Replacement Skidtube

**Start Date:** 29/05/2012 **Required Date:** 16/07/2012

**Start Qty:** 1.00 **Required Qty:** 1.00

AN3-5A Purchased No 230 Each 1,090.000 4 4

*AN3-5A*

Bolt **

4 (28) 12/07/06

| Location | Loc Qty | Loc Code |
|---|---|---|
| ST350 | 1090 | |
| 115371 | 46 | |
| 117423 | 124 | |
| 118626 | 31 | |
| 119355 | 200 | |
| 120187 | 500 | |
| 121185 | 189 | |

AN960JD10L NAS1149D0332J Purchased No 230 Each 0.0000 4 4

*AN960JD10L*

Washer **

121011

4 (28) 12/07/06

ALS7-1032-130 Purchased No 230 Each 2,136.000 44 44

*ALS7-1032-130*

Insert **

44 (28) 12/07/06

| Location | Loc Qty | Loc Code |
|---|---|---|
| ST280 121269 | 51 | |
| 117717 | 27 | |
| 118966 | 22 | |
| 119775 | 2 | |
| ST282 | 2085 | |
| 119530 | 73 | |
| 120181 | 12 | |
| 121444 | 2000 | |

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| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
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**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

**NOTE:** Date & initial all entries

# Picklist Print

*May-29-12 2:57:14 PM*

**Work Order ID:** 84931 *84931*

**Parent Item:** D209-669-043 *D209-669-043*

**Parent Item Name:** Replacement Skidtube

**Start Date:** 29/05/2012 **Required Date:** 16/07/2012

**Start Qty:** 1.00 **Required Qty:** 1.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AN3C4A | | Purchased | No | | 230 | Each | 1,458.000 | 44 | 44 |
| *AN3C4A* | | | | | | | ** | 44 | SP 12/07/06 |
| BOLT | | | | | | | | | |

| Location | Loc Qty | Loc Code |
|---|---|---|
| ST350 | 1458 | |
| 120187 | 57 | |
| 120521 | 28 | |
| 120769 | 38 | |
| 121205 ✓ | 1000 | |
| 121556 | 335 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AN960C10L | NAS1149C0332 R ✓ | Purchased | No | | 230 | Each | 0.0000 | 44 | 44 |
| *AN960C10L* | | | | 122063 | | | ** | 44 | SP 12/07/06 |
| washer | | | | | | | | | |
| D2594-3 | | Manufactured | No | | 230 | Each | 2,418.000 | 14 | 14 |
| *D2594-3* | | | | | | | ** | 14 | SP 12/07/06 |
| O-Ring, 205 Skidtube | | | | | | | | | |

| Location | Loc Qty | Loc Code |
|---|---|---|
| FP001 | 2418 | |
| 65518 | 41 | |
| 79496 | 984 | |
| 79573 | 50 | |
| 79755 ✓ | 1343 | |

**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
| | | | | | | | | |
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| | | | | | | | | |

**NOTE:** Date & initial all entries

**Work Order ID:** 84931
*84931*
**Parent Item:** D209-669-043
*D209-669-043*
**Parent Item Name:** Replacement Skidtube

**Start Date:** 29/05/2012 **Required Date:** 16/07/2012
**Start Qty:** 1.00 **Required Qty:** 1.00

D2594-1 Manufactured No 230 Each 311.0000 14 14
*D2594-1*
Plug, 205 Skidtube
**
14 12/07/06

| Location | Loc Qty | Loc Code |
|---|---|---|
| FP001 | 98 | |
| 73401 | 30 | |
| 74442 | 18 | |
| 79495 | 50 | |
| FP-A | 213 | |
| 73401 | 0 | |
| 78590 | 213 | |

D3564-9 Manufactured No 230 Each 22.0000 1 1
*D3564-9*
Wearshoe
**
1 12/07/06

| Location | Loc Qty | Loc Code |
|---|---|---|
| FG 84870 | 4 | |
| 76950 | 4 | |
| FP001 | 18 | |
| 67590 | 4 | |
| 69943 | 1 | |
| 82255 | 13 | |

D3564-11 Manufactured No 230 Each 8.0000 1 1
*D3564-11*
Wearshoe
**
1 12/07/06

| Location | Loc Qty | Loc Code |
|---|---|---|
| FG 84871 | 4 | |
| 77056 | 4 | |
| FP001 | 4 | |
| 80341 | 4 | |

**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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| | | | | | | | | |

**NOTE:** Date & initial all entries

**Work Order ID:** 84931 *84931*

**Parent Item:** D209-669-043 *D209-669-043*

**Parent Item Name:** Replacement Skidtube

**Start Date:** 29/05/2012 **Required Date:** 16/07/2012

**Start Qty:** 1.00 **Required Qty:** 1.00

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| D3564-5 | Manufactured | No | | 230 | Each | 13.0000 | 1 | ** | 1 |

*D3564-5*

Wearshoe

| Location | Loc Qty | Loc Code |
|---|---|---|
| FG | 2 | |
| 34806 | 2 | |
| FP001 | 11 | |
| 77609 | 3 | |
| 82254 | 8 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| D3566-1 | Manufactured | No | | 230 | Each | 31.0000 | 2 | ** | 2 |

*D3566-1*

Gasket

| Location | Loc Qty | Loc Code |
|---|---|---|
| FP | -22 | |
| 81619 | 10 | |
| FP002 | 53 | |
| 68924 | 2 | |
| 80919 | 3 | |
| 83898 | 16 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| D3566-5 | Manufactured | No | | 230 | Each | 21.0000 | 1 | ** | 1 |

*D3566-5*

Gasket

| Location | Loc Qty | Loc Code |
|---|---|---|
| FP | 12 | |
| 82275 | 12 | |
| FP002 | 9 | |
| 80374 | 3 | |
| 82274 | 6 | |

**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

**NOTE:** Date & initial all entries

| | QTY -041 | QTY -043 | Part Number | Description |
|---|---|---|---|---|
| | X | | D2906-041 | SKIDTUBE ASSEMBLY |
| | | X | D2906-043 | SKIDTUBE ASSEMBLY |
| | | | | |
| | 1 | 1 | D2500-1-190 | EXTRUSION |
| | 22 | 19 | D2579 | CROSS BOLT SPACER |
| | 12 | 14 | D2594-1 | PLUG |
| | 12 | 14 | D2594-3 | O-RING |
| | 2 | 2 | D2855 | AFT CAP |
| | 1 | | D2926-1 | WEB |
| | | 1 | D2926-3 | WEB |
| B | 1 | 1 | D3564-9 | WEARSHOE (REPLACES D2577-1) |
| B | 1 | 1 | D3564-11 | WEARSHOE (REPLACES D2577-3) |
| B | 1 | 1 | D3564-5 | WEARSHOE (REPLACES D2577-5) |
| | 1 | | D3564-15 | WEARSHOE |
| B | 2 | 2 | D3566-1 | GASKET |
| B | 1 | 1 | D3566-5 | GASKET |
| B | 1 | | D3566-15 | GASKET |
| | | | | |
| | 50 | 44 | ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130 | INSERT |
| B | 50 | 44 | AN3C4A | BOLT |
| B | 4 | 4 | AN3-5A | BOLT |
| B | 50 | 44 | AN960C10L | WASHER |
| B | 4 | 4 | AN960JD10L | WASHER |

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 84931 MLJ
12/05/29

**GENERAL NOTES:**

1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES.
3) INSERT D2926-1/-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
5) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
6) USE DART DRILL TEMPLATE DT2906-041T1 (D2906-041) OR DT2906-043T1 (D2906-043) TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION C-C AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/291.
7) WELDING TO BE DONE PER DART QSI 004.
8) FINISH:
   ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2926-1/-3 WEB. POWDER COAT ASSEMBLY WHITE (REF 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
9) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (12 PLACES).
10) ALL DIMENSIONS ARE IN INCHES.

**RELEASED**
07.04.04

| REV. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| B | UPDATE DRAWING FORMAT; RE-ORGANIZE;<br>ADD STAINLESS STEEL WEARPLATES AND GASKETS<br>CHANGE WEARPLATE HARDWARE TO SS;<br>PG 1: ADD NOTE 10;<br>PG 2 C7: REMOVE AFT Ø0.640 HOLE FROM -041;<br>PG 3 C3: CORRECTED -043 CAP P/N;<br>PG 3 D7: 38 PLACES WAS 44 PLACES; | CB | 07.08.21 |
| A | NEW ISSUE | CP | 04.06.22 |

| | | | |
|---|---|---|---|
| DESIGN | | **DART AEROSPACE LTD** | |
| DRAWN | CB | **HAWKESBURY, ONTARIO, CANADA** | |
| CHECKED | PH | DRAWING NO. | REV. B |
| MFG. APPR. | | D2906 | SHEET 1 OF 3 |
| APPROVED | | TITLE | SCALE |
| DE APPR. | | AH-1 (209) SKIDTUBE ASSEMBLY | NTS |
| DATE | 07.08.21 | | |

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**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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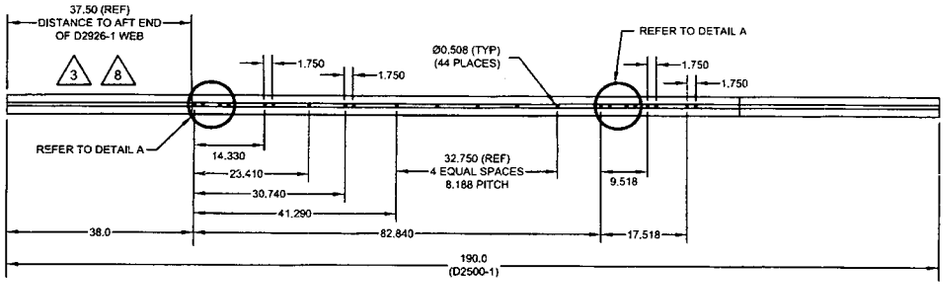
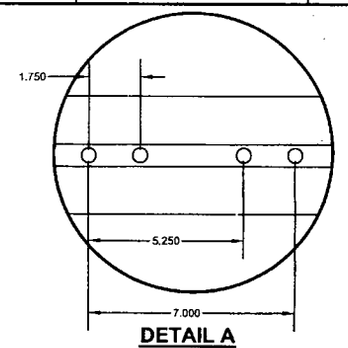
**NOTE:** Date & initial all entries

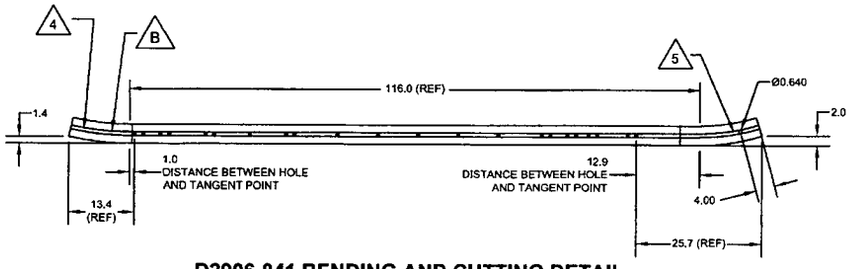



**D2906-1 DRILLING DETAIL**

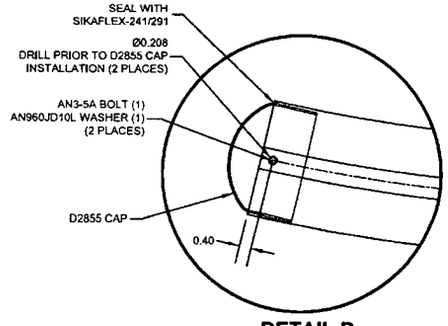
84931




**DETAIL A**
SCALE 1:4

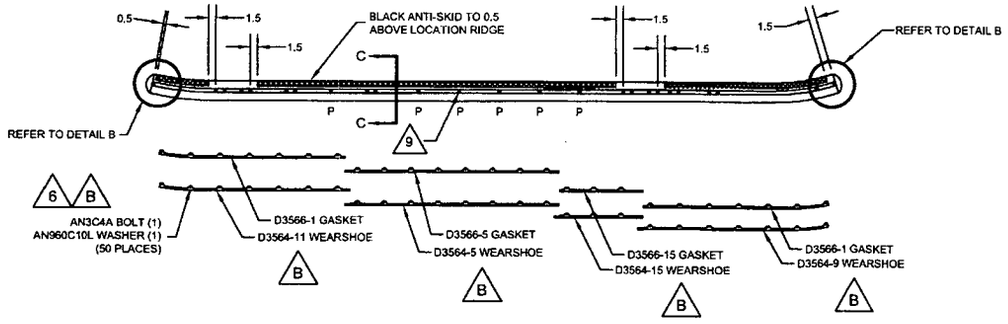



**D2906-041 BENDING AND CUTTING DETAIL**

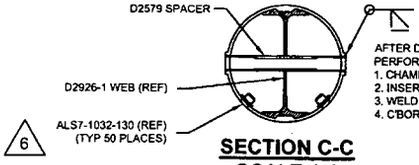



**DETAIL B**
SCALE 1:4

**RELEASED**
07.09.04




**D2906-041 ASSEMBLY DETAIL**




**SECTION C-C**
SCALE 1:4

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (22 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

| | | | |
|---|---|---|---|
| DESIGN | | **DART AEROSPACE LTD** | |
| DRAWN | CB | HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | PH | DRAWING NO. | REV. B |
| MFG. APPR. | | D2906 | SHEET 2 OF 3 |
| APPROVED | | TITLE | SCALE |
| DE APPR. | | AH-1 (209) SKIDTUBE ASSEMBLY | 1:24 |
| DATE | 07.08.21 | | |

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**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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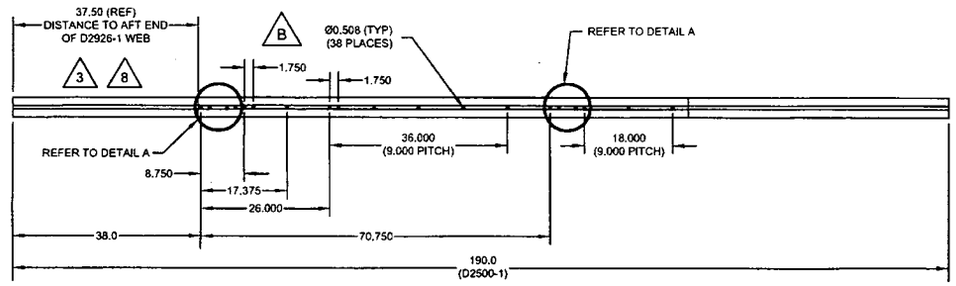
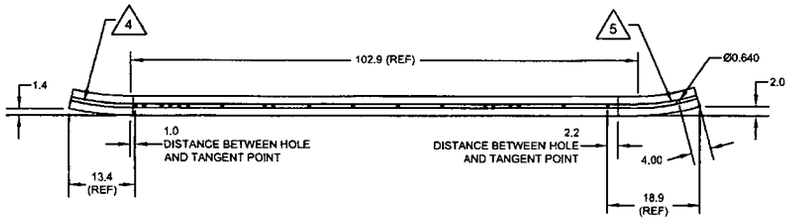
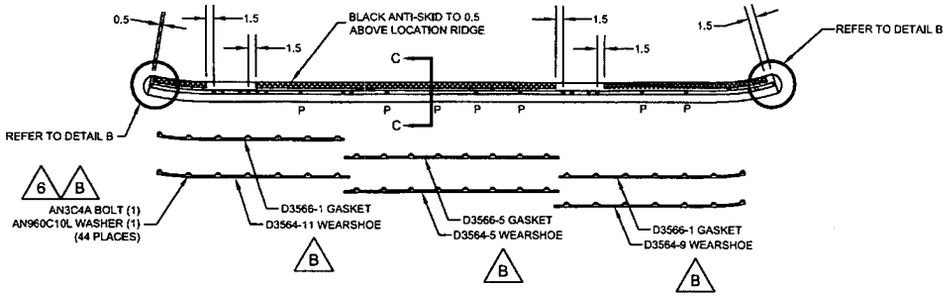
**NOTE:** Date & initial all entries




## D2906-3 DRILLING DETAIL

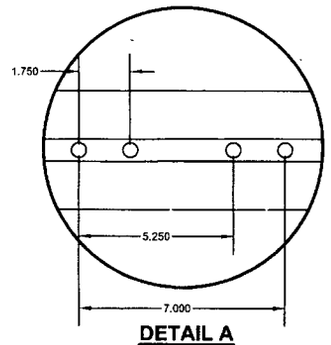



## D2906-043 BENDING AND CUTTING DETAIL

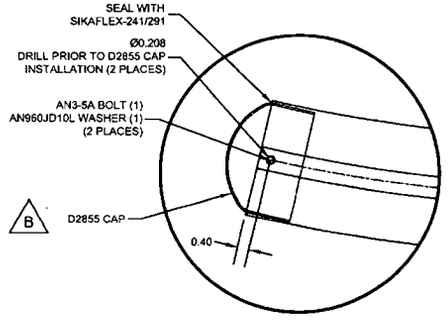



## D2906-043 ASSEMBLY DETAIL

E4931

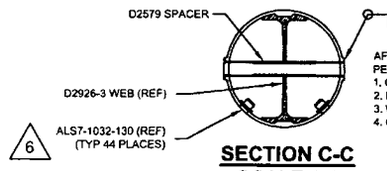



## DETAIL A
SCALE 1:4




## DETAIL B
SCALE 1:4

**RELEASED**
07.09.04




AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (22 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

## SECTION C-C
SCALE 1:4

| | | | |
|---|---|---|---|
| DESIGN | | **DART AEROSPACE LTD** | |
| DRAWN | C.B | HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | PH | DRAWING NO. | REV. B |
| MFG. APPR. | | D2906 | SHEET 3 OF 3 |
| APPROVED | | TITLE | SCALE |
| DE APPR. | | AH-1 (209) SKIDTUBE ASSEMBLY | 1:24 |
| DATE | 07.08.21 | | |

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**Dart Aerospace Ltd**

| W/O: | | WORK ORDER CHANGES | | | | | |
|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **PROCEDURE CHANGE** | **By** | **Date** | **Qty** | **Approval** Chief Eng / Prod Mgr | **Approval** QC Inspector |
| | | | | | | | |
| | | | | | | | |

**Part No:** _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

**Resolution:** _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **DATE** | **STEP** | **Description of NC** Section A | **Corrective Action** Section B | | | **Verification** Section C | **Approval** Chief Eng | **Approval** QC Inspector |
| | | | **Initial** Chief Eng | **Action Description** Chief Eng | **Sign & Date** | | | |
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**NOTE:** Date & initial all entries